REMARKS/ARGUMENTS

Claims 1-28 are pending with Claims 17-26 being withdrawn from consideration by the Office. With respect to these withdrawn claims, Applicants request consideration of rejoinder upon finding that the elected claims are allowable (MPEP 821.04).

The amendment to Claim 1 is found in Figure 1 and the disclosure at page 4, lines 26-32. Notably, Figure 1 shows that the turbulence barrier (3.5) is a labyrinth as part of the reactor casing.

No new matter is believed to have been added by these amendments.

Applicants thank Examiner Lund for the courtesy of discussing the merits of the present application with their undersigned representative.

During this discussion, the rejections primarily in view of the Kordina patent (5,704,985) were addressed. In the Official Action the Examiner has maintained and modified the prior art rejections primarily in view of the Kordina patent. The Examiner continues to maintain that it would have been obvious to reverse the orientation of the Kordina device because the orientation in Kordina is not absolutely required. In addition, the Examiner has taken the position that the gas outlet holes "14'" provided in the bottom of the susceptor is the same as the turbulence barrier as required in the claims. As the gas outlet holes are contained within the reactor casing "1" the Examiner believes that this is positioned in the reactor casing as required in the claims.

It was again explained that the claimed device has numerous advantages. The undersigned believes that it was understood how these differences are configured when comparing the drawings but indicated that these differences are not entirely reflected in the claims. The Examiner suggested and Applicants have accepted, further defining the turbulence barrier as a labyrinth as part of the reactor casing.

Once again these differences are quite apparent from the claims as written exemplified by a side-by-side depiction of the device from Kordina and that of the present application as shown in Figure 1:

Kordina

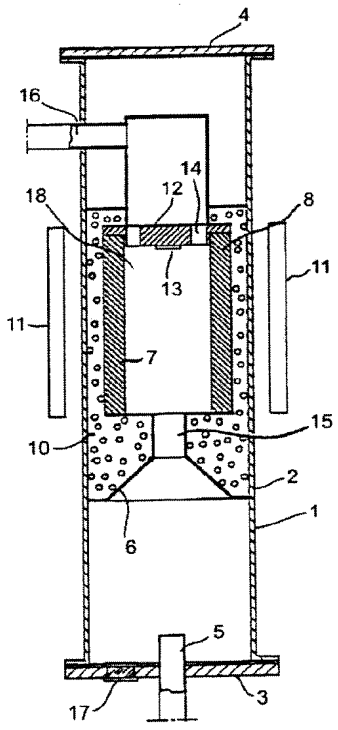

Fig. 1

present application

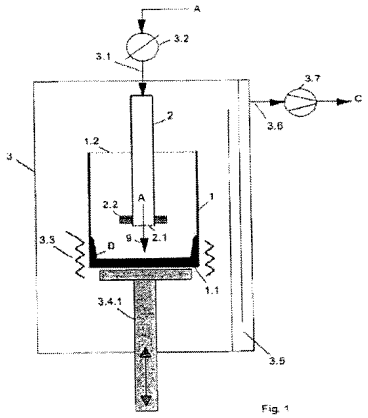

Fig. 1

In the present application and amended claim 1 the gas flows through the turbulence barrier 3.5 for gas calming and particle deposition which is then connected to the outlet 3.6. In contrast, in Kordina's reaction, the gas enter through conduit 5 at the lower end flange 3, lower inlet 15 thorugh gas outlet holes 14 in the lid 12 and then through conduit 16 connected to a pump. (see col. 5, lines 6-32). For these reasons and those discussed further below, Applicants request reconsideration and withdrawal of all of the rejections.

As discussed on page 3 of the present specification:

> Surprisingly, it has been found that a solid (B) can be produced in lump form with a relatively low production of silicon dust in a simple and particularly economic way by controlled thermal decomposition of a gaseous substance (A) if the decomposition and deposition of the substance (A) is carried out in a specific device.

This specific device mentioned in this paragraph, is the one that is claimed. Moreover, this device is particular advantageous for producing polycrystalline silicone (as the solid (B) in the paragraph above—see page 4, 1st paragraph of the specification) from silane gases, see also page 4, 2nd paragraph (reproduced below):

> The present invention is particularly economical, since the outlay on equipment is relatively low, and when monosilane is used as substance (A) the only off-gas formed is hydrogen, possibly with small amounts of monosilane. In addition, a relatively low level of silicon dust is formed in the process. Due to the procedure and device according to the present invention, there is generally no caking of solid (B) on the reactor wall (3). Furthermore, practically the only off-gas obtained is free hydrogen. The deposition rate of solid (B) is generally >97%. Furthermore, the dust content in the off-gas (C) after outlet (3.6) is generally very low. Also, the present process is particularly advantageous in energy terms, since, inter alia, relatively low substance flow rates can be used.

The devices described in the cited references are arranged in a manner that is different from that claimed. Moreover, those devices because they are designed and optimized for specific purposes other than the preparation of polycrystalline silicon as described in this application would not have been modified to yield the claimed device. In particular, as noted above, the device of Kordina is oriented in a different direction than that being claimed AND the set up for gas flow and output is entirely different from that of Kordina.

As the secondary references relied upon in the rejections under 35 USC 103 using Kordina as the primary reference, do not describe or suggest modifying Kordina's disclosure in the manner that is claimed, Applicants also request that the rejections under 35 USC 103 be withdrawn.

The Goela patent is cited to reject Claim 5 as alleging teaching a gas conveying unit with a dust separator. The Padovani patent is cited to reject Claim 14 as alleging teaching a coating device with heating and cooling coils. However, Goela nor Padovani describe or suggest modifying Kordina in a manner that one would obtain the presently claimed device. Moreover, one would not do such a thing because it would be completely contrary to the explicit teachings of the Kordina patent.

US 6,001,175 ("Maruyama") describes an apparatus for crystal growth of, e.g. ,silicon wafers used in semiconductors, that is configured like a sheet to accommodate the stated need for larger diameter wafers (see col. 3, lines 6-21). In addition, the Examiner relies on the statement in col. 21, lines 58-64 as alleged basis to conclude that SiC is equivalent to silicon and therefore would have been obvious to use only silicon based on this disclosure. The disclosure in Marayama states: "Although initial heating can be generally performed by heat conduction from a heating material when a high-purity carbon susceptor coated with silicon carbide (SiC) or a low resistivity silicon substrate susceptor is used as the substrate wafer support 9, defects such as crystal plane slipping caused by heat distortion, etc. occurs easily in the substrate wafer."

Applicants respectfully disagree with the Examiner's conclusion on this basis because there is simply no motivation to substitute any of the materials from the Kordina et al patent with silicon as described in this patent publication. This is particularly true in light of the fact that Kordina et al requires SiC and it is improper to go directly against the explicit teachings of the prior art when raising an obviousness rejection. Moreover, there is nothing in the references which specifically suggest using high purity silicon in the Kordina et al devices because they are designed and optimized for specific purposes other than the preparation of polycrystalline silicon as described in this application.

Moreover, the disclosure in Maruyama does not permit one to go against the explicit eachings of the Kordina patent to make a device as claimed and as such there can be no issue of obviousness in this case. This applies equally to the rejections noted for Claims 5, 8 and 14 using the Kordina, Maruyama, Goela and Padovani patents.

Withdrawal of all rejections under 35 USC 103(a) is requested.

A Notice of Allowance for all pending claims is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, he is encouraged to contact Applicants' undersigned representative.

Respectfully submitted,

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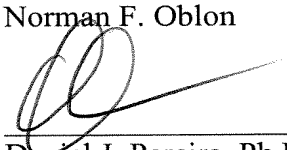
MAIER & NEUSTADT, P.C.
Norman F. Oblon



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